IB/04/01951

Sertifikaat

Certificate

REPUBLIEK VAN SUID-AFRIKA

REPUBLIC OF SOUTH AFRICA

PATENT KANTOOR
DEPARTEMENT VAN HANDEL
EN NYWERHEID

PATENT OFFICE
DEPARTMENT OF TRADE AND
INDUSTRY

Hiermee word gesertifiseer dat
This is to certify that

the documents annexed hereto are true copies of:

Application forms P.1 and P.3, provisional specification and drawings of South African Patent Application No. 2003/4826 as originally filed in the Republic of South Africa on 20 June 2003 in the name of MANN, Roy Neville for an invention entitled: "A STRUCTURAL DEVICE".

Geteken te PRETORIA in die Republiek van Suid-Afrika, hierdie 30th dag van July 2004

Signed at PRETORIA in the Republic of South Africa, this 30th day of July 2004

Registrar of Patents

PRIORITY DOCUMENT
SUBMITTED OR TRANSMITTED IN
COMPLIANCE WITH
RULE 17.1(a) OR (b)

REPUBLIC OF SOUTH AFRICA
PATENTS ACT, 1978
APPLICATION FOR A PATENT AND
ACKNOWLEDGEMENT OF RECEIPT
(Section 30(1) Regulation 22)

(to be lodged in duplicate)

REPUBLIC OF SOUTH AFRICA
REVENUE
20.06.03 R 060.00
HASR 370
INKOMSTE

THE GRANT OF A PATENT IS HEREBY REQUESTED BY THE UNDERMENTIONED APPLICANT ON THE BASIS OF THE PRESENT APPLICATION FILED IN DUPLICATE

21	01	PATENT APPLICATION	2003/4826	A&A REF	V15786 MR

71	FULL NAME(S) OF APPLICANT(S)

MANN, Roy Neville

ADDRESS(ES) OF APPLICANT(S)

167 Ridge Road, Umhlanga Rocks, 4320, Republic of South Africa

54	TITLE OF INVENTION

"A STRUCTURAL DEVICE"

Only the items marked with an "X" in the blocks below are applicable.

[ ] THE APPLICANT CLAIMS PRIORITY AS SET OUT ON THE ACCOMPANYING FORM P.2. The earliest priority claimed is
Country: **NIL** No: **NIL** Date: **NIL**

[ ] THE APPLICATION IS FOR A PATENT OF ADDITION TO PATENT APPLICATION NO 21 01

[ ] THIS APPLICATION IS A FRESH APPLICATION IN TERMS OF SECTION 37 AND BASED ON APPLICATION NO 21 01

THIS APPLICATION IS ACCOMPANIED BY:

[X] A single copy of a provisional specification of 15 pages
[X] Drawings of 3 sheet(s)
[ ] Publication particulars and abstract (Form P.8 in duplicate) (for complete only)
[ ] A copy of Figure of the drawings (if any) for the abstract (for complete only)
[ ] An assignment of invention
[ ] Certified priority document(s). (State quantity)
[ ] Translation of the priority document(s)
[ ] An assignment of priority rights
[ ] A copy of Form P.2 and the specification of RSA Patent Application No 21 01
[X] Form P.2 in duplicate
[X] A declaration and power of attorney on Form P.3
[ ] Request for ante-dating on Form P.4
[ ] Request for classification on Form P.9
[ ] Request for delay of acceptance on Form P.4
[x] Copy of Form P.1

74	ADDRESS FOR SERVICE: Adams & Adams, Pretoria

DATED 19 June 2003

M ROTTEVEEL

ADAMS & ADAMS
APPLICANTS PATENT ATTORNEYS

The duplicate will be returned to the applicant's address for service as proof of lodging but is not valid unless endorsed with official stamp

OFFICIAL DATE STAMP
REGISTRAR OF PATENTS, DESIGNS, TRADE MARKS AND COPYRIGHT
2003 -06- 20
REGISTRAAR VAN PATENTE, MODELLE, HANDELSMERKE EN OUTEURSREG
REGISTRAR OF PATENTS

A&A P201

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PRETORIA

REPUBLIC OF SOUTH AFRICA
PATENTS ACT, 1978
DECLARATION AND POWER OF ATTORNEY
(Section 30 - Regulation 8, 22(i)(c) and 33)

FORM P.3

PATENT APPLICATION NO		A&A REF: V15786 MR	LODGING DATE	
21	01	2003/4826	22	20 JUNE 2003

FULL NAME(S) OF APPLICANT(S)	
71	MANN, Roy Neville

FULL NAME(S) OF INVENTOR(S)	
72	MANN, Roy Neville

EARLIEST PRIORITY CLAIMED	COUNTRY		NUMBER		DATE	
	33	NIL	31	NIL	32	NIL

NOTE: The country must be indicated by its International Abbreviation - see schedule 4 of the Regulations

TITLE OF INVENTION	
54	"A STRUCTURAL DEVICE"

* I/We MANN, Roy Neville

hereby declare that :-

* 1. I/we am/are the applicant(s) mentioned above;

** 2. ~~I/we have been authorized by the applicant(s) to make this declaration and have knowledge of the facts herein stated in the capacity of of the applicant(s);~~

*** 3. the inventor(s) of the abovementioned invention is/are the person(s) named above ~~and the applicant(s) has/have acquired the right to apply by virtue of an assignment from the inventor(s);~~

4. to the best of my/our knowledge and belief, if a patent is granted on the application, there will be no lawful ground for the revocation of the patent;

**** 5. ~~this is a convention application and the earliest application from which priority is claimed as set out above is the first application in a convention country in respect of the invention claimed in any of the claims;~~ and

6. the partners and qualified staff of the firm of **ADAMS & ADAMS**, patent attorneys, are authorised, jointly and severally, with powers of substitution and revocation, to represent the applicant(s) in this application and to be the address for service of the applicant(s) while the application is pending and after a patent has been granted on the application.

SIGNED AT UMHLANGA THIS 5th DAY OF JUNE 2003

SIGNATURE(S)
(no legalization necessary)

* In the case of application in the name of a company, partnership or firm, give full names of signatory/signatories, delete paragraph 1, and enter capacity of each signatory in paragraph 2.
** If the applicant is a natural person, delete paragraph 2.
*** If the right to apply is not by virtue of an assignment from the inventor(s), delete "an assignment from the inventor(s)" and give details of acquisition of right.
**** For non-convention applications, delete paragraph 5.

A & A Ref No: **V15786 MR**

ADAMS & ADAMS
PATENT ATTORNEYS
PRETORIA

FORM P6

REPUBLIC OF SOUTH AFRICA
Patents Act, 1978

PROVISIONAL SPECIFICATION
(Section 30 (1) - Regulation 27)

21	01	OFFICIAL APPLICATION NO

A2003/ 4826

22	LODGING DATE

20 JUNE 2003

71	FULL NAME(S) OF APPLICANT(S)

MANN, Roy Neville

72	FULL NAME(S) OF INVENTOR(S)

MANN, Roy Neville

54	TITLE OF INVENTION

"A STRUCTURAL DEVICE"

THIS INVENTION relates to a structural device.

The invention relates particularly to a structural part for a structural device where the structural part includes a frame and a cover element of a flexible sheet material that spans the frame and that is thus located on the frame. A structural device may include one or more structural parts, a device with two or more structural parts having the structural parts effectively connected to one another, usually via the cover elements thereof.

The structural device as herein envisaged particularly is a display device in respect of which the structural part as envisaged comprises a banner part and the cover element located on the frame of the banner part has display subject matter applied thereto, by printing, or otherwise, for display by the associated display device when disposed in an operative display configuration. Although a display device is considered an important form of a structural device, it is envisaged that structural parts including a frame and a cover element can be used also as part of a gazebo, a vending stall, a tent, and the like. Insofar as the main application of the structural device is as a display device, with the structural part being a banner part, the invention is defined and described hereafter as a display device that has a banner part. However, references to a display device having a banner part clearly must be

interpreted to include references to all other forms of structural devices that includes structural parts as hereinabove envisaged.

Many different display devices of the above type are already well known and it is an object of the invention to provide an improved display device and/or banner part for a display device, specifically in relation to the construction and the display qualities thereof. Clearly, this objective applies also in relation to other structural devices as above envisaged.

According to a first aspect of the invention there is provided a banner part for a display device, which includes

a frame that is formed of elongate, resiliently flexible frame segments that in combination and in an unfolded configuration of the frame form an angular frame structure; and

a display element of a flexible sheet material that spans the frame in its angular frame structure configuration and that is securely located on the frame,
and in which the resilient flexibility of the frame segments is such that the segments can maintain the frame, with the display element securely located thereon, in its angular frame structure configuration when disposed in the display configuration of the banner part, while permitting collapse of the frame into a smaller more compact configuration by performing a manual twisting and folding operation thereon.

The frame segments particularly may form a rectangular frame structure and, as such, the frame segments forming the frame of the banner part of the invention particularly comprises four separate frame elements that are connected at their free ends by connector pieces for forming a rectangular frame structure, the connector pieces forming the corners thereof. Different numbers of frame segments/frame

elements, as well as frame segments/frame elements of different lengths, can make up many different frame profiles for frames that, together with display elements, still have the required display and collapsibility qualities.

The frame segments/frame elements that form a frame may be of any suitable resiliently flexible material and, typically, are formed of spring steel or of a carbon fibre reinforced material. Also, the cross-sectional configuration of the frame segments/frame elements and the cross-sectional dimensions of the frame segments/frame elements may be greatly variable, being particularly determined so that in combination with the resilient flexibility of the frame segments/frame elements, the frame segments/frame elements can maintain the frame in its angular frame structure configuration while the banner part is in its display configuration and still permit collapse of the frame into a smaller more compact configuration by performing a manual twisting and folding operation thereon. It is envisaged in this regard that the cross-sectional profile of the frame segments/frame elements either may be circular or flat rectangular.

The display element of the banner part for a display device, in accordance with the invention, may be of any suitable sheet material, the display element typically being of a synthetic plastics sheet material, a natural or synthetic fabric sheet material, or the like. The display element particularly is securely located on the frame via seams formed by stitching around the perimeter of the element, the frame segments of the frame being operatively located within the seams.

Further according to the invention, the display banner for a display device, in accordance with the invention, may include one or more reinforcing member that is located to extend across pairs of frame segments of the frame for enhancing the effective rigidity of the frame in the display configuration of the banner part.

Particularly, for a frame defining a rectangular frame structure, each reinforcing member may extend between opposing frame segments that form the longer sides of the rectangular frame structure when the frame segments are disposed in an unfolded configuration. Each reinforcing member either may have both its ends releasably held in position with respect to the frame to fulfil its required purpose, typically via pockets defined by the display element in suitable locations with respect to the frame, or may have one end secured with respect to the frame and the other end releasably held with respect to the frame. Still alternatively, a reinforcing member may be made up of two segments, with each segment having one end secured with respect to the frame, while the opposite ends are releasably connectable to one another in a configuration in which the reinforcing member can fulfil its required purpose.

Still further according to the invention, each reinforcing member either may be of a linear configuration or may be bowed to project away from the display element when disposed in its operative configuration with respect to the frame, particularly to reduce the visibility thereof through the display element with the banner part disposed in its display configuration.

It must be appreciated that the particular number of reinforcing members to be associated with the frame of a banner part, in accordance with the invention, will be determined by the size of the frame and the conditions to which the banner part is expected to be exposed, in use thereof.

According to a second aspect of the invention there is provided a display device, which includes a banner part, in accordance with the first aspect of the invention, and means to support the banner part in an operative upright display configuration.

The said means to support the banner part in an operative upright display configuration may comprise feet formations that may be releasably or securely

engaged with frame elements and/or connector pieces associated therewith, with the frame disposed in its upright display configuration. Engagement typically is in the form of a telescopic engagement arrangement, with the feet formations having formations that telescopically engage the said frame elements and/or connector pieces associated therewith.

Alternatively, the means to support the banner part in an operative upright configuration may comprise stand elements that can be securely or removably engaged with the frame in a configuration in which they form a stand structure for holding the frame in an operative upright display configuration. It will be appreciated in this regard that the configuration of the stand elements are greatly variable and that this configuration will be particularly determined by the required mode of support of the banner part as determined by its intended application.

According to a third aspect of the invention there is provided a display device which includes at least two banner parts, in accordance with the first aspect of the invention, that are engaged with one another in a configuration in which, in combination, they can support the display device in an operative upright display configuration.

It is particularly envisaged in relation to a display device including two or more banner parts that adjacent banner parts may include a common frame element that has connector pieces secured at opposite ends thereof that serve to connect remaining frame elements of the respective frames with respect to the common frame element. Particularly for banner parts having frames with common frame elements, the display element associated with the frames of the banner parts may comprise a single element that is securely located on the combination of the frames.

One particular form of a display device, in accordance with the third aspect of the invention, includes two banner parts that, in combination, can form an A- frame type structure for their support in a display configuration.

An alternative form of a display device, in accordance with the third aspect of the invention, provides for the device to include more than two banner parts that are secured together in an end-to-end configuration and that, for the support of the display device in an operative display configuration, provide for the banner parts to be disposed in an angular configuration with respect to one another. As such, the banner parts forming such a display device in effect are self supporting in an operative display configuration.

It must be understood also that a display device, in accordance with the third aspect of the invention, may be associated also with means to support the display device in an operative upright display configuration, such means to support being essentially the equivalent of the means to support a display device as defined with respect to the display device, in accordance with the second aspect of the invention.

Within the above parameters and principles as defined in relation to the banner part, in accordance with the first aspect of the invention, and display devices, in accordance with the second and third aspects of the invention, many different variations and alternative configurations are envisaged and the invention extends also to such variations and alternative configurations that still incorporate the essential principles of the various aspects of the present invention as above defined. In this regard it must be appreciated that each banner part associated with a display device may be associated with one or more reinforcing members where this is considered necessary, although it is generally envisaged also that the inherent resilience of the frame segments forming a frame for a banner part in itself

can provide for a banner part to be maintained in its required substantially rectangular frame structure configuration.

For banner parts having frames made up of separate frame elements that are connected by connector pieces, it is envisaged that the connector pieces may be angularly configured for enhancing the structural rigidity of the frame. Typically, for a rectangular frame structure defined by the frame, this is achieved by providing for an angle between adjacent frame elements that marginally exceeds 90°.

Further features of a banner part, in accordance with the first aspect of the invention, and display devices in accordance with the second and third aspects of the invention, are described hereafter with reference to examples of the invention that are illustrated in the accompanying diagrammatic drawings. In the drawings:

Figure 1A shows an elevational front view of a frame of a banner part for a display device, in accordance with the first aspect of the invention, in an unfolded configuration thereof;

Figure 1B shows the banner part of Figure 1A, in a collapsed folded configuration thereof;

Figure 2 shows a cross-sectional side view of the frame of Figure 1A, along line II-II of Figure 1A, having a display element securely located thereon;

Figure 3 shows a side view of the frame of Figure 1A, having a reinforcing member releasably held with respect thereto;

Figure 4 shows in side view a segment of the frame of Figure 1A, having a foot formation releasably connected therewith;

Figure 5 shows an elevational front view of the segment of the frame of Figure 1A, together with the foot formation;

Figure 6 shows a side view of a display device, in accordance with the second aspect of the invention;

Figure 7 shows an elevational front view of a first embodiment of a display device, in accordance with the third aspect of the invention;

Figure 8 shows a side view of a second embodiment of a display device, in accordance with the third aspect of the invention;

Figure 9 shows a plan view of a third embodiment of a display device, in accordance with the third aspect of the invention; and

Figure 10 shows the display device of Figure 9, in a partially collapsed configuration.

Referring initially to Figures 1A and 1B of the drawings, the frame of a banner part for a display device, in accordance with the first aspect of the invention, is designated generally by the reference numeral 10. As is shown clearly in Figure 1A, the frame 10 comprises four, substantially linear, frame elements 12 that form a rectangular frame structure by being connected together, in the configuration as shown, by means of connector pieces 14.

The frame elements 12 are formed of a resiliently flexible material, e.g. spring steel or a carbon fibre reinforced material, the resilient flexibility of the frame elements 12 being such that they can maintain the frame 10 in the rectangular frame structure configuration as shown in Figure 1, while still permitting the collapse of the frame 10 into a collapsed configuration, substantially as shown in Figure 1B, by performing a manual twisting and folding operation on the frame 10. The twisting

and folding operation particularly applies to the longer frame elements 12.2 and result in the shorter frame elements 12.1 to be effectively folded onto one another.

Referring also to Figure 2 of the drawings, a complete banner part for a display device with which the frame 10 can be associated includes also a substantially rectangular display element 16 (only shown in dotted lines), the display element spanning the frame 10 when disposed in its configuration as shown in Figure 1A. The display element 16 is provided with seam formations around the perimeter thereof by a stitching or other suitable operation, the frame elements 12 being located within these seam formations for the secure location of the display element on the frame 10. The display element can be formed of any suitable sheet material and typically is formed of a synthetic plastics sheet material, or a natural or synthetic fabric sheet material. The display element, in use as part of a banner part, has display matter applied thereto by a printing or other process, which display matter can be displayed by the banner part when supported in a display configuration which, generally, will be a substantially upright configuration.

It must be understood that the resilient flexibility of the frame elements, which is essentially determined by the material of which these elements are formed, the cross-sectional profile of these elements and the cross-sectional dimensions of these elements, must be optimized to provide for these elements being able to maintain the rectangular frame structure configuration of the frame 10 when having a display element securely located thereon while still permitting manual collapse without requiring excessive force. In order to enhance this required rigidity of the frame, the angular configuration of the connector pieces 14 may provide for the angle between frame elements 12.1 and 12.2 to be marginally in excess of 90°, providing for the frame elements 12.2 to "bow slightly outwardly" and hence provide for a more rigid frame.

Although a frame as above envisaged is considered sufficiently rigid for permitting a banner part including such a frame to have sufficient rigidity to serve as a display device, or as a part of a display device, where the frame is relatively small, it is envisaged that for larger frames, a reinforcing member may be provided that can act between frame elements for enhancing the effective rigidity of the frame. As such and referring particularly to Figure 3 of the drawings, in relation to the frame 10, a reinforcing member 18 is provided to act between the parallel frame elements 12.2 for securing the spacing between these elements and thereby enhancing the rigidity of the frame, the particular reinforcing member 18 having its opposite ends located with respect to the frame elements 12.2 via pocket formations (not clearly shown) provided on the display element 16 that is securely located on the frame. It is envisaged in this regard also that a reinforcing member may have one of its ends securely located with respect to a banner part, including a frame 10, while its other end is releasably engageable therewith, for holding the reinforcing member in its operative configuration. Still a different reinforcing member may comprise two segments that each has one end secured to the banner part, their opposite ends being releasably connectable to one another to form the reinforcing member.

The reinforcing member 18 as shown bows outwardly with respect to the general plane of the banner part including the frame 10, thus being spaced from the display elements 16. This spacing reduces the visibility of the reinforcing member 18 when viewing display matter applied on the display element 16 from the operative front face side of the display element 16, i.e. in the direction of arrow 20. It will be understood that many different configuration reinforcing members can be associated with a frame of the type hereinabove described and in this regard it is envisaged in particular that a frame 10 can be associated with two or more reinforcing members, where this may be required in terms of the size of the banner part with which the frame is associated and/or the intended application of the banner part as part of a display device.

Referring also to Figures 4 and 5 of the drawings, a display device, that includes a banner part made up of a frame 10 on which a display element 16 is securely located, includes also two feet formations 30 (only one shown) that provide for the support of the banner part in an operative upright display configuration. Each foot formation includes an elongate base member 32 and a leg 34, the leg 34 being telescopically received within a passage formation defined therefor by a corner piece 14.1 that is provided at the operative lower end of the frame 10, for connecting the frame elements 12 of the frame together (see also Figure 1A). This mode of location of the feet formations clearly is greatly variable. The feet formations may be completely removable from the frame, or may be securely located with respect thereto. It is envisaged also that the location of the feet formation with respect to the frame 10 can be rendered slidably adjustable, thus effectively rendering the banner part including the frame 10 height adjustable, as may be required for different display configurations of an associated display device. It will be understood in this regard that many different configurations feet formation can be provided for the purpose described and can be associated with a banner part, including a frame 10, for forming a display device.

Referring to Figure 6 of the drawings, a display device, generally designated by the numeral 38, includes a banner part 40 and a stand 42 that provides for the support of the banner part in an operative upright display configuration. The stand 42 includes legs 44 (only one leg being visible) and cross members 46 that provide for the legs 44 to be held in their required configuration with respect to the banner part 40, in order to support the banner part 40 in its display configuration. It is envisaged that the stand 42 can be provided as a separate unit that is independently collapsible and/or foldable into a more compact configuration, also to permit the banner part 40 to be folded into a more compact configuration as shown in Figure 1B. Once again, it will be appreciated that many different configurations stands can be associated with banner parts for supporting the banner parts in display configurations and in this regard both the feet formation as described with

reference to Figures 4 and 5 and stands as described with reference to Figure 6 can be associated with combinations of banner parts that are inter-engaged with one another, for supporting these banner parts in a display configuration.

It is ordinarily envisaged that if two or more banner parts are to be used in combination with one another for forming a display device, that these banner parts will be connected with one another via the display elements thereof, by suitable stitching, or the like. However, a preferred embodiment of such a display device (as shown in Figure 7) provides for the frames of operatively adjacent banner parts thereof to be provided with a common frame element. Figure 7 particularly shows two banner parts 50 that each have a frame 52 that is essentially the equivalent of the frame 10 as shown in Figure 1A of the drawings. However, the frame element 54 of the respective frames 52 constitutes a common element to both the frames 52, the connector pieces 56 particularly being configured to permit one frame 52 to effectively fold onto the other frame 52, in which configuration the two banner parts 50 can be simultaneously collapsed into a collapsed configuration, essentially as shown in Figure 1B.

It will be understood in the above regard that a display device, including the banner parts 50, (the display elements of which are not shown in Figure 7) can be supported in a display configuration in various modes, either via separate support means such as feet formations as shown in Figures 4 and 5, or a stand as shown in Figure 6, or merely by positioning the two banner parts at an angle to one another, which will permit the banner parts to effectively become self supporting in their display configuration.

Figure 8 shows a display device 60 that includes two banner parts 62 that are connected together along their longitudinal edges, the two banner parts 62 either being associated with separate frames or frames having a common frame element. Where associated with a common frame element, a single display element can

serve to span the frames of both the banner parts 62 by the suitable location thereof with respect to the frames. The two banner parts 62 permit support in an A-frame configuration when viewed in side view and as shown, a flexible element 64 extending between the banner parts 62 for securing the angular configuration of the banner parts in their display configuration.

It is submitted that many different configuration display devices can be provided by combining banner parts incorporating frames as described with reference to Figure 1 with one another, Figure 9 illustrating in plan view the configuration of a display device 70 that includes three banner parts 72 that are arranged in the triangular configuration as shown, in which they effectively support themselves. It will be understood that one of the banner parts 72 will have the other two banner parts inter-engaged therewith, the free ends of the said other two banner parts being releasably connectable with one another for holding the display device 70 in the configuration shown. By releasing these said ends of the other two banner parts 72, the three banner parts 72 can be collapsed into a configuration as shown in Figure 10, in which they are folded flat onto one another, again permitting the collapse of the three banner parts in combination into a configuration substantially as shown in Figure 1B.

Other display devices may include combinations of banner parts that are either inter-engaged with one another or releasably connected to one another, different structures being envisaged in this regard that can serve the purpose of display devices and that are essentially made up of rectangular segments that are collapsible into a more compact configuration for transport and storage purposes. It will be understood in this regard that the configuration of display devices is greatly variable and the invention extends to all such variations which still incorporate at least one banner part, in accordance with the first aspect of the present invention. Particularly, banner parts as envisaged can form part of gazebos, vending stalls, tents, and the like. For purposes of this specification

these are merely referred to as display devices, but these are in fact structural devices that may not specifically fulfil a display device function.

Although the display banners described above comprise a frame defining a rectangular frame structure configuration, it must be understood that frames defining different angular configurations, being made up of different length frame segments/frame elements and/or different numbers of frame segments/frame elements, are envisaged as part of the present invention, insofar as they may still have the required display and collapsibility qualities.

DATED THIS 19th day of JUNE 2003

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APPLICANTS PATENT ATTORNEYS

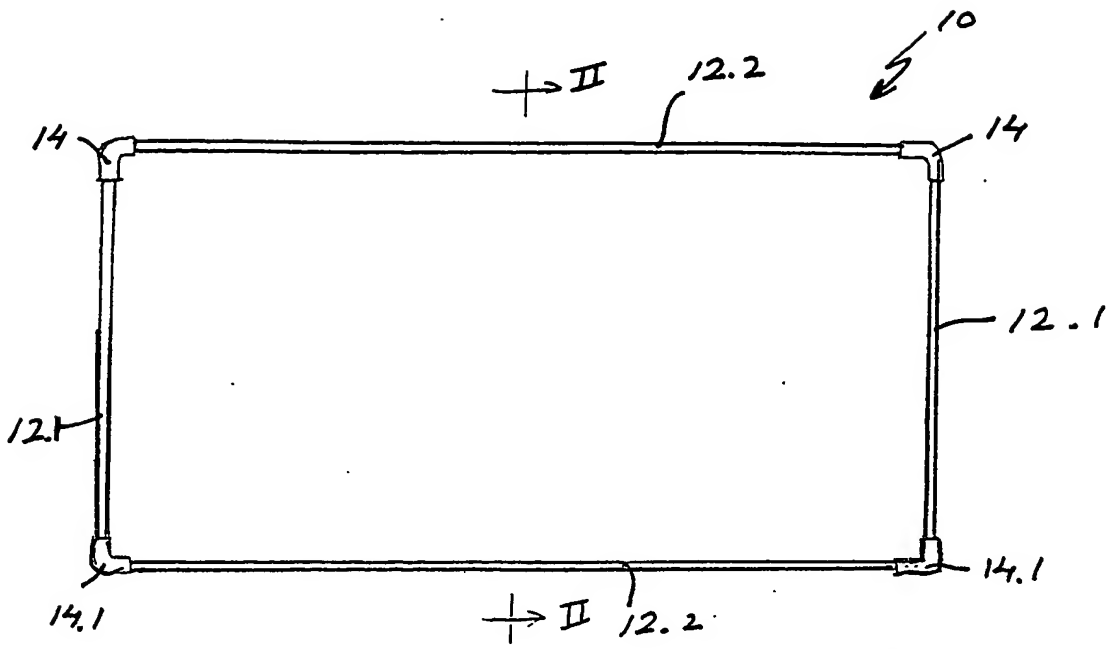

FIG 1A

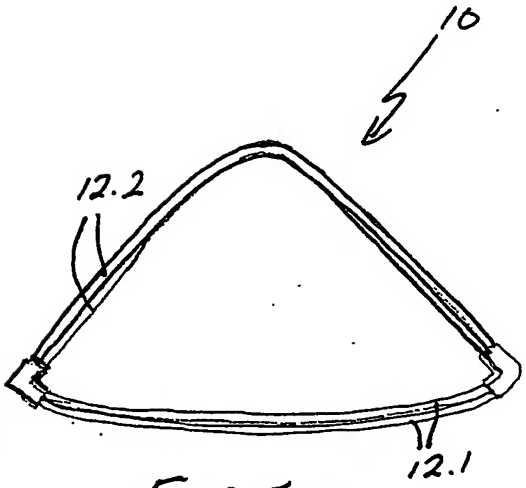

FIG 1B

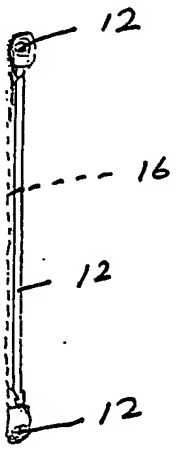

FIG 2

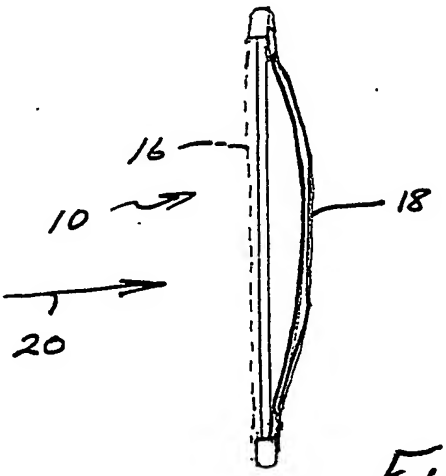

FIG 3

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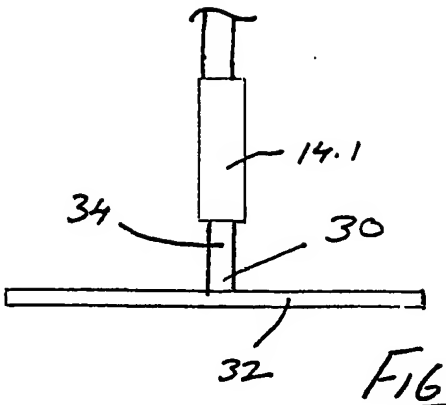

FIG 4

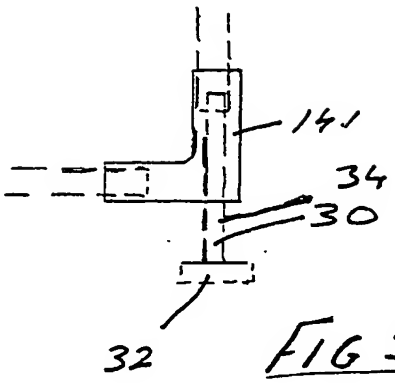

FIG 5

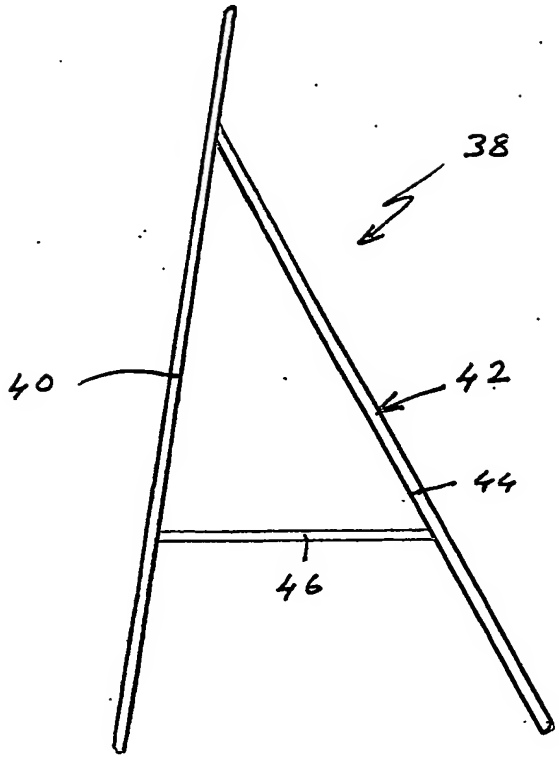

FIG 6

ADAMS & ADAMS

MANN, ROY NEVILLE

2003/4826

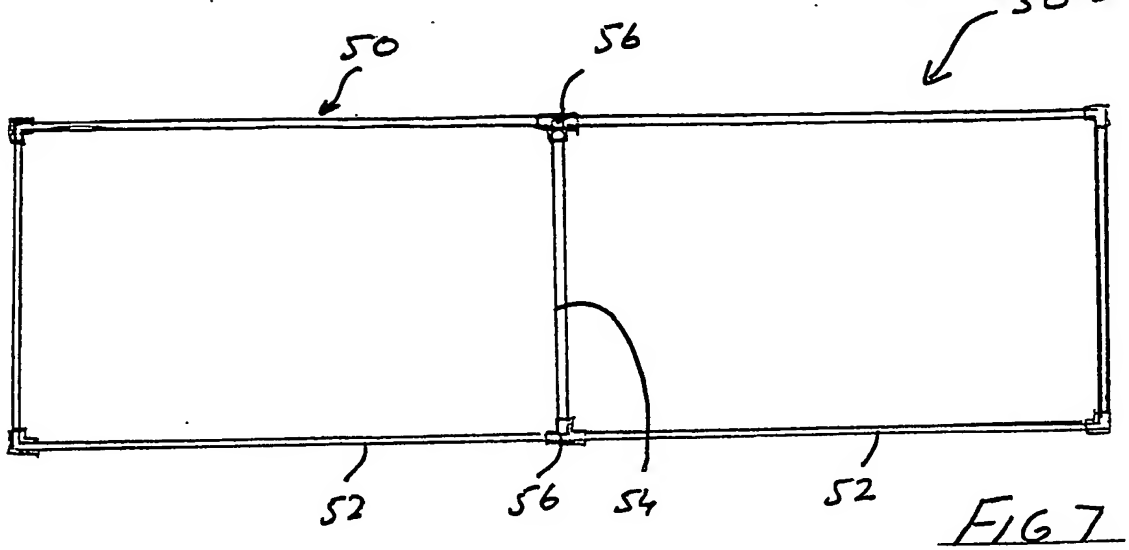

FIG 7

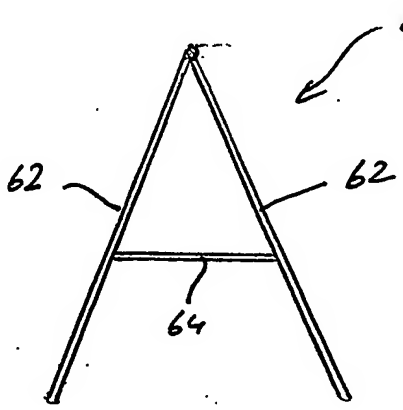

FIG 8

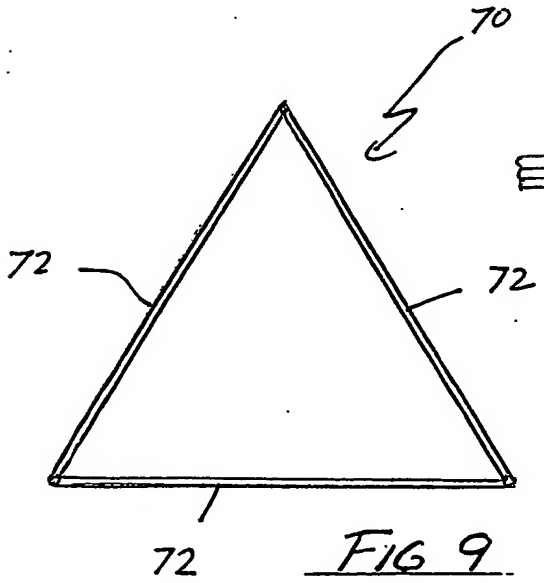

FIG 9

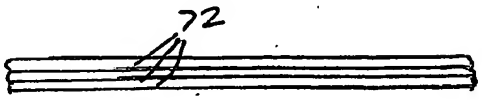

FIG 10

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